

Industrial Comparison Update

Services Sector Tops Size, Growth Lists

Arizona's largest industry is also its fastest growing, based on a composite of various economic measures. Services leads the pack, followed relatively closely by the trade, manufacturing and government sectors; the latter is growing slowly. In contrast, another service-related sector, finance, insurance and real estate (FIRE), is expanding nearly as rapidly as the services sector.

The trend toward services – the second-ranked industry as recently

as 1980 (behind trade) – corresponds to the national pattern and is likely to persist. This changing economic picture is not always accepted (see box on page 2).

1986 INDUSTRIAL STRUCTURE

The sectoral shares of Arizona's nine major industries, defined by the Standard Industrial Classification (SIC), are provided in Figure 1 for each of the three most important economic measures: employment,

the earnings by industry portion of personal income (PI) and Gross State Product (GSP). (The latest year for which data are available varies from 1984 to 1986, depending on the source and geographic coverage). Perfect correspondence does not exist among these measures – for example, the sectoral share of a low-paying, manpower-

See "Industries," page 2

Quarterly Economic Forecast Update

Sluggish Arizona Economy To Improve in '88

The Arizona economy is likely to experience a slower rate of expansion during 1987 than previously forecast and to improve somewhat in 1988. This slower-growth outlook is gaining wider acceptance as economic data for 1986 and early 1987 are released. Most indicators reveal a significantly weaker regional economy than analysts had expected, with Arizona not faring very well.

The U.S. economy, as a whole, continues its reasonably healthy performance. The national outlook implicit in the forecasts for Arizona and the Phoenix area is described in the article that begins on page 8.

In the April *Arizona Business*, the Economic Outlook Center (EOC) predicted modest expansion during 1987 and 1988 for Arizona and Maricopa County. These forecasts are updated in Tables 1 and 2.

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CONSTRUCTION

The pace of homebuilding in the state had slackened even before the spring's sharp rise in mortgage

See "AZ Forecast," page 6

Services: Fact vs. Stereotype

The fact that services is not only Arizona's largest industry but also its fastest growing is not always well received by economists and others because of misleading stereotypes of service work. These include perceptions of menial, low-paying positions and the concept that services is a support industry subsidiary to primary industries such as mining, agriculture and manufacturing.

The reality, however, is that much of services consists of information-centered businesses or firms that perform technologically sophisticated functions. Workers bring a high skill level to their job and are rewarded with relatively high and fast-growing wages. In Arizona, nearly one-half of services employment can be classified as "professional services," including health services, legal services, engineering and architectural services and some portions of business services. Included in the latter category are data processing services and software producers.

As society has evolved, some services have become essential rather than merely a secondary product. Information, for example, is beginning to be perceived as a necessary good. It is an almost infinitely expandable resource, on which significant economic growth can be based for an indefinite period of time. Similarly, constantly improving health services are now viewed as indispensable. This sector alone provides one-third of the total personal income of Arizona's services industry.

Thus, the stereotypes apply to a shrinking portion of the industry. That they remain at all seems rooted in traditional economic thought. For example, according to Adam Smith, the father of classical economics: "The labour of some of the most respectable orders in society (lawyers, physicians, men of letters, government officials) is, like that of menial servants, unproductive of any value."

"Industries," from page 1 dependent industry will be greater measured by employment than by PI — but general agreement is apparent.

Services is the largest industry, based on both personal income (23 percent share) and employment (25 percent share). Measured by GSP, services is the second largest industry, tightly bunched with the FIRE and trade sectors. The smallest of the major industries are the two original mainstays of the Arizona economy, mining and agriculture, each contributing less than a 3 percent share of employment, PI or GSP.

County Industrial Structure

By any economic measure, the two metropolitan counties (Maricopa and Pima) dominate the Arizona economy, with more than 80 percent of all activity. As a result, the state's industrial structure reflects the makeup of the urban areas, particularly metropolitan Phoenix, which alone contributes nearly two-thirds of Arizona economic activity. Of the non-urban counties, Coconino, Mohave and Yavapai most closely resemble the state's overall industrial profile (see Table 1).

In other non-metropolitan counties, however, much different industrial structures prevail. Several counties remain highly dependent on agriculture and/or mining. Even more significant is government, which ranks as the first or second largest industry in every non-urban county but Mohave. In contrast, government ranks only fourth in Maricopa County, despite the fact

that Phoenix is the seat of state government.

Services and trade are important in most Arizona counties, each among the top two industries in roughly one-half of the counties. Manufacturing is the third-to-fifth largest industry in most counties, but its level ranges from first in Gila County to eighth in La Paz County. The finance, insurance and real estate sector ranks sixth or lower in all counties except Maricopa; this sector commonly concentrates in regional centers.

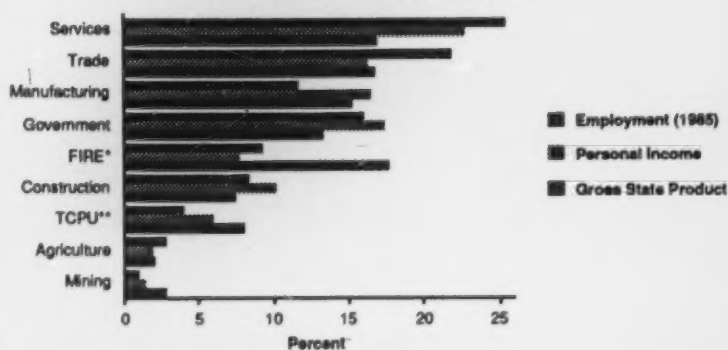
The relative size of the construction industry usually occupies between the fifth and seventh positions, more consistent across counties than any other industry. Transportation, communications and public utilities (TCPU) generally ranks in the same range, but this industry is relatively important in the small counties with large power plants.

Component Industries

The U.S. Department of Commerce subdivides the SIC's nine major industries into more than 70 subsectors; personal income and employment data for 1985 are available for each. The largest subsectors are presented in Tables 2 and 3.

Corresponding with the Arizona rankings shown in Table 1, two major industrial groups, services and trade, are most frequently represented. Of the top 10 subsectors, they account for one-half when measured by employment and for three when gauged by PI. Of the top 25 component industries, services and trade

FIGURE 1
ARIZONA SECTORAL SHARES, 1986



*Finance, Insurance and Real Estate

**Transportation, Communications and Public Utilities

Source: Center for Business Research, College of Business, Arizona State University; and U.S. Department of Commerce, Bureau of Economic Analysis.

have six subsectors each on the employment-based list and five subsectors each on the personal-income-based list.

Least frequently mentioned among the largest subindustries are those in the agriculture, mining and TCPU industries.

INDUSTRIAL GROWTH DURING THE 1980s

The rate of economic growth varied widely by industry between 1980 and 1986 (see Figure II). Expansion of the services and FIRE sectors greatly outpaced that of other industries. Meanwhile, mining and agriculture declined by each measure, decreases that are even more sig-

nificant when compared to the rapid growth of the other industries.

Measured by personal income, the FIRE sector grew most rapidly (69 percent), followed by services (59 percent), which expanded more than twice as fast as any other industry. These two industries also topped the list based on employment growth: services employment rose 57 percent, slightly more than the 53 percent of finance, insurance and real estate. Only construction employment rose nearly as fast, but this increase was magnified by cyclical factors. The growth rankings were different when measured by GSP. Several industries are closely bunched, with manufacturing at the top, followed by services and trade.

County Industrial Growth

Growth of Arizona's metropolitan areas far surpassed that of rural areas during the 1980s, regardless of economic measure. While real Gross County Product rose more than 20 percent in Maricopa and Pima Counties between 1980 and 1984, only in Pinal County did the growth rate of a rural county exceed 10 percent. Non-agricultural wage and salary employment rose 30 percent or more between 1980 and 1986 in the urban counties, but less than 20 percent in all non-urban counties except Yavapai and Mohave. Though personal income growth between 1980 and 1984 approached 50 percent in the urban counties, the greatest gain meas-

TABLE 1
SIZE RANKING OF NINE MAJOR INDUSTRIES
ARIZONA AND COUNTIES
Based on Employment, Personal Income and Gross Product

	Services	Trade	Government	Manufacturing	FIRE*	Construction	TCPU**	Agriculture	Mining
ARIZONA	1	2	3	4	5	6	7	8	9
Apache	2	5	1	6	7	3	4	8	9
Cochise	3	2	1	5	7	6	4	8	9
Cocconino	2	3	1	4	7	6	5	8	9
Gila	5	4	2	1	9	6	7	8	3
Graham	4	2	1	6	8	5	7	3	9
Greenlee	6	4	2	3	9	5	7	8	1
La Paz	1	3	2	8	7	5	6	4	9
Maricopa	1	2	4	3	5	6	7	8	9
Mohave	2	1	4	3	7	6	5	9	8
Navajo	1	6	2	5	9	7	3	8	4
Pima	1	4	2	3	6	5	7	9	8
Pinal	6	5	1	4	9	8	7	3	2
Santa Cruz	4	1	2	3	8	7	5	8	9
Yavapai	3	1	2	4	7	6	5	9	8
Yuma	4	3	1	7	8	5	6	2	9

*Finance, Insurance and Real Estate

**Transportation, Communications and Public Utilities

Source: Center for Business Research, College of Business, Arizona State University

TABLE 2
ARIZONA'S TEN LARGEST INDUSTRIAL SUBSECTORS
Ranked by 1985 Employment

Subsector	Major Industrial Group	Employment	Share
1. State and Local Government	Government	178,385	11.1%
2. Business Services	Services	93,050	5.8
3. Eating and Drinking Places	Trade	92,727	5.8
4. Special Trade Contractors	Construction	83,472	5.2
5. Health Services	Services	82,309	5.1
6. Real Estate	FIRE*	76,501	4.8
7. Wholesale Trade	Trade	67,576	4.2
8. Miscellaneous Retail**	Trade	48,511	3.0
9. Electric and Electronic Equipment	Manufacturing	42,723	2.7
10. Federal Government - Civilian	Government	41,000	2.6

*Finance, Insurance and Real Estate

**Includes retail establishments such as drug stores, liquor stores and used merchandise stores.

Source: Center for Business Research, College of Business, Arizona State University; from data of the U.S. Department of Commerce, Bureau of Economic Analysis.

ured in a non-metropolitan county was 33 percent in Apache and Cochise Counties.

The differing rates of economic growth result from both diverse industrial structures and varying rates of growth, by industry, across counties (see Table 4). The table's rankings by county should be interpreted carefully because of differing industry sizes. For example, though mining was Maricopa County's second-fastest-growing industry on a percentage basis, its share of the county's economic activity remained far less than 1 percent.

Services was the first or second fastest growing industry in 10 counties. FIRE's rank was not particularly high in any county, its expansion occurring primarily in Maricopa County. The other industries' ranks

vary widely by county, ranging from first to eighth or ninth in every case.

The pattern of industrial growth most closely reflects the overall state profile in the metropolitan counties and in Yavapai County. The pattern was most different in those counties with substantial agricultural or mining activity: Gila, Graham and Greenlee. For much of rural Arizona, the immediate outlook is bleak. They rely on government and perhaps mining or agriculture, the three slowest growing industries.

COMPONENT INDUSTRIES

The 10 fastest growing subsectors between 1980 and 1985, based on employment and personal income, are shown in Tables 5 and 6. Dominance of the services and FIRE sectors is obvious: components of

these major industries occupy six of the top eight positions when measured by employment and all of the top nine ranks as gauged by PI.

Perhaps the clearest single sign of the state economy's direction is the position of the business services sector near the top of both the growth and size listings (Tables 2 and 3). Other large subsectors that grew rapidly include health services, miscellaneous services, and special trade contractors, though the gain in the latter sector is magnified by cyclical factors.

In contrast, several subsectors shrank or grew slowly between 1980 and 1985. The metal mining and farm subsectors experienced declines in personal income. Primary metal manufacturing and food and kindred manufacturing realized only

TABLE 3
ARIZONA'S TEN LARGEST INDUSTRIAL SUBSECTORS
Ranked by 1985 Personal Income

Subsector	Major Industrial Group	Personal Income*	Share
1. State and Local Government	Government	\$3,497	11.9%
2. Health Services	Services	1,945	6.6
3. Special Trade Contractors	Construction	1,893	5.8
4. Wholesale Trade	Trade	1,554	5.3
5. Business Services	Services	1,361	4.6
6. Electric and Electronic Equipment	Manufacturing	1,169	4.0
7. Federal Government, Civilian	Government	1,053	3.6
8. Transportation Equipment, Excluding Motor Vehicles	Manufacturing	841	2.9
9. Machinery, Except Electrical	Manufacturing	826	2.8
10. Banking	FIRE**	820	2.8

*In millions of dollars

**Finance, Insurance and Real Estate

Source: Center for Business Research, College of Business, Arizona State University; from data of the U.S. Department of Commerce, Bureau of Economic Analysis.

TABLE 4
1980-86 GROWTH RANKING OF NINE MAJOR INDUSTRIES
ARIZONA AND COUNTIES
Based on Employment, Personal Income and Gross Product

	Services	FIRE*	Manufacturing	Trade	Construction	TCPU**	Government	Agriculture	Mining
ARIZONA	1	2	3	4	5	6	7	8	9
Apache	8	9	1	4	2	6	5	9	7
Cochise	1	8	7	2	6	4	3	5	9
Cocconino	2	5	4	1	7	9	3	6	8
Gila	2	9	7	3	8	4	5	1	6
Graham	3	5	7	6	9	1	2	4	8
Greenlee	4	6	7	5	8	9	1	2	3
Maricopa	1	3	5	4	6	7	8	9	2
Mohave	1	5	8	3	6	2	4	7	9
Navajo	1	7	3	4	9	2	5	8	5
Pima	2	8	1	4	5	6	7	3	9
Pinal	6	4	3	5	1	2	8	7	9
Santa Cruz	2	6	4	5	1	3	7	9	8
Yavapai	1	7	2	3	4	5	6	9	8
Yuma/Le Paz ...	2	5	5	4	8	7	5	9	1

*Finance, Insurance and Real Estate

**Transportation, Communications and Public Utilities

Source: Center for Business Research, College of Business, Arizona State University

small gains. Each of these four component industries suffered a decline in employment. Other subindustries in which employment declined include apparel and other textile manufacturing, railroad transportation and electric, gas and sanitary services.

SUMMARY

Services is Arizona's leading industry; trade, government and manufacturing are other large sectors. When the major industrial groupings are subdivided, subsectors of the services and trade industries disproportionately occupy the top rankings. In particular, business services and health services are major industries in Arizona.

In terms of growth during the 1980s, services again tops the list, closely followed by the finance, insurance and real estate sector. Components of these industries hold nearly all of the top ranks in growth listings, with the business services sector at or near the top. Arizona's smallest industries, mining and agriculture, occupy the bottom positions on these lists, actually declining. In addition, the government sector is growing slowly. These conditions have had, and probably will continue to have, negative effects across much of rural Arizona, where these three industries play a key economic role.

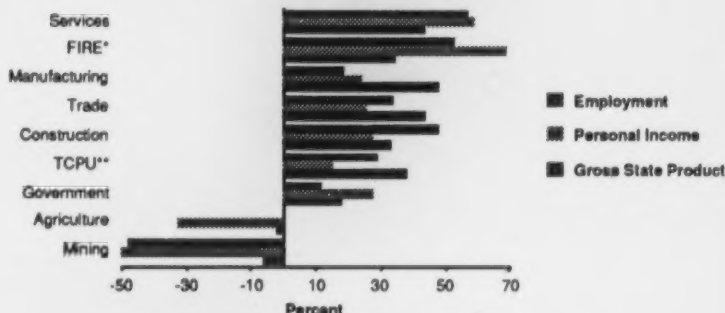
The industrial structures and growth rates are much different in the non-metropolitan counties than in the metropolitan areas, the latter resembling state averages. Such deviations help account for the wide differentials in economic performance during the 1980s between Arizona's rural and urban areas.

— Tom R. Rex
Research Manager

Complete Report Available

This article summarizes the 1987 supplement to the original 1986 report on Arizona's industrial structure. Though the 1987 report updates the most important economic series, it does not repeat much of the analysis, including that of the economic base and multipliers. The supplement features a section on 1980-86 performance that was not included in the original study. Copies of both the 1986 report and the 1987 supplement may be obtained by contacting the Center for Business Research, College of Business, Arizona State University, Tempe, AZ 85287; (602) 965-3961.

FIGURE II
INDUSTRIAL GROWTH IN ARIZONA
Percent Change, 1980-86



*Finance, Insurance and Real Estate

**Transportation, Communications and Public Utilities

Note: Personal income and GSP are measured in real dollars

Source: Arizona Department of Economic Security; U.S. Department of Commerce, Bureau of Economic Analysis; and Center for Business Research, College of Business, Arizona State University.

TABLE 5
ARIZONA'S TEN FASTEST GROWING INDUSTRIAL SUBSECTORS*
Ranked by 1980-85 Percent Change in Employment

	Major Industrial Group	Percent Change
1. Business Services	Services	92%
2. Security and Commodity Brokers and Services	FIRE**	82
3. Special Trade Contractors	Construction	87
4. Furniture and Fixtures	Manufacturing	83
5. Real Estate	FIRE**	85
6. Miscellaneous Services	Services	50
7. Legal Services	Services	49
8. Auto Repair, Services and Garages	Services	46
9. Agricultural Services	Agriculture	45
10. Miscellaneous Manufacturing Industries	Manufacturing	40

*With at least 1,000 employees

**Finance, Insurance and Real Estate

Source: Center for Business Research, College of Business, Arizona State University; based on data from the U.S. Department of Commerce, Bureau of Economic Analysis.

TABLE 6
ARIZONA'S TEN FASTEST GROWING INDUSTRIAL SUBSECTORS*
Ranked by 1980-85 Percent Change in Personal Income

	Major Industrial Group	Percent Change
1. Holding & Other Investment Companies	FIRE**	308%
2. Security and Commodity Brokers and Services	FIRE**	167
3. Business Services	Services	144
4. Legal Services	Services	125
5. Banking	FIRE**	107
6. Amusement and Recreation Services	Services	108
7. Health Services	Services	88
8. Miscellaneous Services	Services	85
9. Auto Repair, Services and Garages	Services	81
10. Instruments and Related Products	Manufacturing	80

*With personal income of at least \$100 million in 1985

**Finance, Insurance and Real Estate

Source: Center for Business Research, College of Business, Arizona State University; based on data from the U.S. Department of Commerce, Bureau of Economic Analysis.

TABLE 1
1987 AND 1988 ECONOMIC FORECASTS: ARIZONA

	Actual 1986	Forecast 1987	Forecast 1988
Gross State Product			
Millions of 1982 Dollars	44,970	46,780	48,375
Percent Change	4.8	4.1	5.6
Personal Income			
Millions of Current Dollars	43,877	46,840	50,630
Percent Change	7.6	6.8	8.1
Retail Sales			
Millions of Current Dollars	17,187	18,225	19,570
Percent Change	6.3	6.0	7.4
Unemployment Rate			
Percent	6.9	7.6	7.2
Wage and Salary Employment			
Number in Thousands	1,341.4	1,391.8	1,458.7
Percent Change	4.9	3.8	4.8
Population			
Number in Thousands	3,332	3,452	3,572
Percent Change	4.1	3.6	3.5
New Single Family Housing Units Permitted			
Number	34,079	30,500	31,500
Percent Change	2.4	-8.8	3.3
New Multifamily Housing Units Permitted ¹			
Number	27,008	14,700	14,500
Percent Change	-27.2	-45.6	-1.4

¹Apartment complexes of three or more units

TABLE 2
1987 AND 1988 ECONOMIC FORECASTS: MARICOPA COUNTY

	Actual 1986	Forecast 1987	Forecast 1988
Consumer Price Index			
Percent Change	1.3	4.3	5.4
Retail Sales			
Millions of Current Dollars	11,342	12,050	12,950
Percent Change	4.7	6.2	7.5
Unemployment Rate			
Percent	5.6	6.4	6.1
Wage and Salary Employment			
Number in Thousands	883.5	918.6	965.6
Percent Change	4.9	4.0	5.1
Population			
Number in Thousands	1,902	1,982	2,062
Percent Change	4.9	4.2	4.0
New Single Family Housing Units Permitted			
Number	23,851	22,600	23,300
Percent Change	3.1	-6.2	3.1
New Multifamily Housing Units Permitted ¹			
Number	18,311	11,100	11,000
Percent Change	-32.9	-36.4	-0.9

¹Apartment complexes of three or more units

Source (Tables 1 and 2): Economic Outlook Center, College of Business, Arizona State University

"AZ Forecast," from page 1

interest rates. On a seasonally adjusted basis, residential building permits during first quarter 1987 were down more than 35 percent from 1986 levels.

While the decline was expected for multifamily housing, single family home construction was slower than anticipated. Assuming that interest rates bottomed out for the current business cycle in March, the forecast is for 30,500 single family housing starts in Arizona during 1987, about 1,500 fewer than predicted in the previous forecast.

Figure 1 illustrates the steep decline in construction employment that began last summer. During prior business cycles, construction employment was a significant leading indicator of the Arizona economy's short-term growth path.

EMPLOYMENT

Arizona employment statistics for the first four months of 1987 portray a rapidly weakening economy. Construction was not the only sector to experience difficulties. Continuing job losses in manufacturing dimmed hopes for a rebound by the durable goods producers this year. However, some of the state's electronics manufacturers offer promising signs of expansion; this trend may continue if the nation's trade balance responds further to the dollar's fall in exchange value.

Staffing cuts by defense contractors have offset gains recorded by other companies. Anticipated cuts in defense spending suggest that employment growth in Arizona's manufacturing sector will not be as strong as the EOC had hoped. The softening in this sector, combined with the downturn in construction activity, has caused the EOC to adjust employment forecasts downward. Non-agricultural wage and salary employment in Arizona should rise just 3.8 percent during 1987, down from the 4.4 percent growth rate predicted earlier in the year.

In 1988, Arizona's employment situation is likely to improve. The forecast of 4.8 percent growth is comparable to the 4.9 percent gain posted in 1986.

PERSONAL INCOME

Preliminary estimates of 1986 Arizona personal income were released in April by the Bureau of Economic Analysis, U.S. Department of Commerce. The 7.6 percent increase, while small compared to gains during the 1984-1986 period, should not have surprised most analysts.

The income data confirmed other information already available. Employment growth declined substantially during the second half of 1986, with well-paying jobs eliminated in manufacturing and construction; retail sales were anemic relative to expectations; and state revenue collections lagged so far behind projections that a special legislative session was called to cut spending in order to balance the budget.

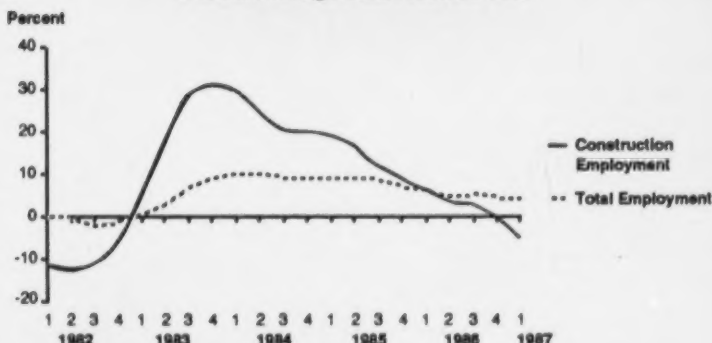
The revised outlook for employment also has contributed to modified predictions for income growth. An increase of 6.8 percent is projected for this year, to be followed by an increase of 8.1 percent in 1988. The expected improvement will result from a relatively sanguine employment situation and higher inflation.

PRICES

If little or no inflation is a good thing for the economy, then it was probably too good to last. The 1986 experience of 1 percent-plus inflation already is a thing of the past. During first quarter 1987, the Metropolitan Phoenix Consumer Price Index rose a seasonally adjusted 2.1 percent, for a compound annual rate of 8.7 percent. The "villain" that brought back inflation was the same entity called "hero" when it contributed to inflation's short-lived demise: gasoline prices.

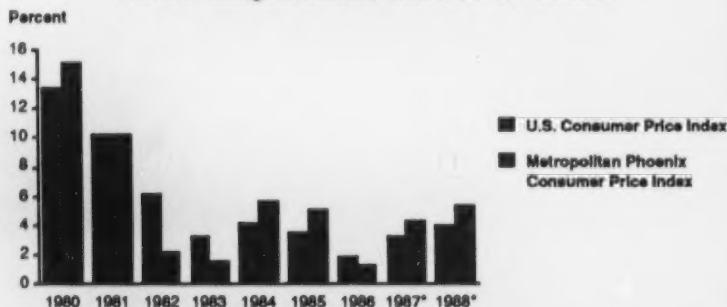
Aside from fuel-related transportation costs, little change from last year was evident in the remaining categories. This pattern is expected to prevail for the duration of the forecast period. As Figure II indicates, the EOC predicts inflation in 1987 and 1988 similar to the 1984-1985 rates. Increases in the Metropolitan Phoenix CPI should average 4.3 percent in 1987 and 5.4 percent in

FIGURE I
ARIZONA CONSTRUCTION EMPLOYMENT
Percent Change from Previous Year



Source: Arizona Department of Economic Security; and the Economic Outlook Center, College of Business, Arizona State University.

FIGURE II
CONSUMER PRICES
METROPOLITAN PHOENIX AND THE UNITED STATES
Percent Change in Indexes from the Previous Year



*Forecast

Source: Metropolitan Phoenix data compiled by the Center for Business Research, College of Business, Arizona State University, in cosponsorship with Valley National Bank; U.S. data are from the U.S. Department of Labor, Bureau of Labor Statistics.

1988. These forecasts assume that the fuel cost volatility of 1986 and early 1987 is mostly behind us.

RISKS TO THE OUTLOOK

The principal risk to the current economic outlook is a national recession, which is not expected to occur before 1989. Conversely, the probability is low that the Arizona economy will experience renewed vigor in the immediate future. Virtually all sectors of the state's construction industry have enough slack to prevent the boom of recent years from resuming. A rapid expansion in manufacturing also is unlikely this year, due to reductions in defense spending, along with a slow-to-develop recovery in electronics.

SUMMARY

The Arizona economy has weakened perceptibly in recent months, as measured by employment, construction activity, the Arizona Index of Leading Economic Indicators, and nearly every other measure. Nevertheless, when the state is evaluated in a regional or national context, the statistical measures still are reasonably strong.

Even so, the evidence is unmistakable: The expansion may not be finished, but the national economy must continue to grow if the Arizona economy is to regain the health it enjoyed as recently as one year ago.

— Brian Cary
Economist
Economic Outlook Center

Quarterly National Economic Forecast

Slow Growth and Uncertainty Mar Outlook for '87 and '88

In an expansion phase for 54 months, the U.S. economy is four months shy of the longest peacetime recovery in U.S. business-cycle history, which dates back to 1854. While it is a forgone conclusion that the economy has the vitality to break this record, its path thereafter is marked by uncertainty. The odds are favorable that the economy will languish in a low-growth profile for the next 24 months, but this prognosis is largely dependent on both the skillfulness of the Federal Reserve and the cooperation of foreign countries and investors.

OVERVIEW

In all, little has changed since the last national forecast of the Economic Outlook Center (see the April 1987 *Arizona Business*). Real GNP is likely to grow 2.4 percent this year and 3.2 percent in 1988. Higher oil prices, though bothersome, do not appear to be a major threat to growth. The U.S. dollar should continue its fall against major foreign currencies, dropping 16 percent in 1987 and 7 percent in 1988, thus heating up the U.S. export climate.

A new development — one that has been wreaking havoc on the bond market — is the renewed concern over inflation as well as the potential for a freefall of the dollar against major foreign currencies. As measured by the consumer price index, inflation rose at a compound annual rate of 6.2 percent during the first quarter of 1987. In addition, the Fed has shifted its monetary policy from accommodative to "snugging" (slightly restrictive), with a concomitant rise in interest rates. Consequently, the major changes in the outlook since April concern those sectors of the economy that are interest-sensitive — namely, consumption and investment spending.

FORECAST BY SECTOR

Consumption

Table 1 shows the contributions to growth in real GNP of the final demand categories from 1986 to 1988. In the halcyon period of 1986, consumers outdid themselves in two

	Actual* 1986	1987	1988
Real Gross National Product	3,675.0	3,764.6	3,884.6
Less Inventory Change	6.5	15.3	28.3
Equals Final Sales	3,668.5	3,749.3	3,856.3
Components of Final Sales			
Personal Consumption	2,418.7	2,471.0	2,547.9
Non-residential Investment	456.7	452.4	473.3
Residential Investment	194.0	195.8	193.2
Government Purchases	746.8	760.5	764.8
Net Exports	-147.8	-130.6	-123.4
		Percentage Change from Prior Year	
Real Gross National Product	2.5	2.4	3.2
Final Sales	2.6	2.2	2.9
Components of Final Sales			
Personal Consumption	4.1	2.2	3.1
Non-residential Investment	-1.0	-0.9	4.7
Residential Investment	9.4	0.9	-1.3
Government Purchases	3.5	1.8	0.6
Net Exports	-36.6	11.6	5.5

*In billions of 1982 dollars

Source: Actual 1986 data are from the U.S. Department of Commerce, Bureau of Economic Analysis. Projections are by the Economic Outlook Center, College of Business, Arizona State University.

dimensions: amassing debt and spending on durable goods such as autos and appliances. Reductions in oil prices and interest rates, in addition to the stimulus of auto incentive programs, helped to generate the year's 4 percent growth in consumption spending. By comparison, the outlook for 1987 appears lethargic. Low-to-moderate income growth, coupled with higher 1986 and 1987 tax liabilities from underwithholding, signal a retrenchment in consumer spending. The recent spike in both long and short-term interest rates does not bode well for any surge in borrowing that would support higher spending levels.

The April drop in the index of consumer confidence, compounded by a rise in the "Misery Index" (inflation combined with unemployment) as illustrated in Figure 1, give consumers little to celebrate. Households will be inclined to rebuild personal savings and pare down debt in the coming months. The EOC outlook is for meager growth in spending this year (2.2 percent), with the pace accelerating to 3.1 percent in 1988

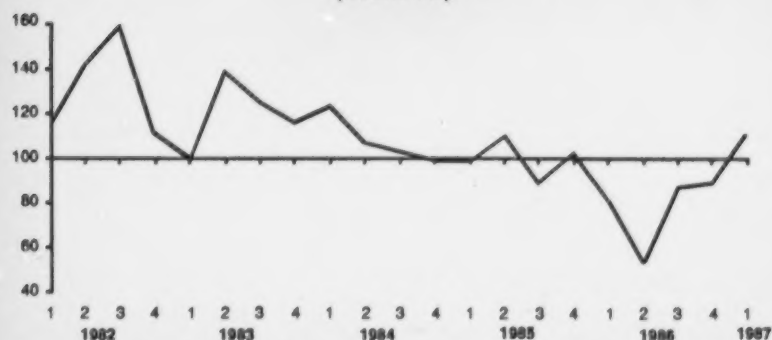
as consumers feel the impact of tax reform and higher personal income growth.

Investment

For investment spending, the picture turns from bad to worse. In April, the EOC noted several factors contributing to a climate of negative growth in non-residential fixed investment during 1987: a severe overhang of excess capacity in commercial property, tax reform's limitations on sheltering income through limited partnerships, and the lengthening of depreciation periods for investment properties.

Given the recent run-up in mortgage rates, the outlook for residential fixed investment is equally bleak. With non-residential fixed investment expected to decline 0.9 percent and residential fixed investment expected to grow just 0.9 percent, only a buildup in inventories will keep forecasted investment spending from turning negative during 1987. In 1988, the growth in residential fixed investment is likely to turn negative, but spending by busi-

**FIGURE 1
THE MISERY INDEX*
(1985 = 100)**



*Combines the "all items" inflation rate from the U.S. Consumer Price Index and the U.S. unemployment rate for the civilian non-institutional population (both from the U.S. Department of Labor, Bureau of Labor Statistics).

Source: Compiled by the Economic Outlook Center, College of Business, Arizona State University.

ness on investment goods should rebound due to a turnaround in the trade picture.

Public Sector

Because of the size of the federal deficit and its associated financing requirements, federal spending is expected to show little, if any, real growth during 1987 and 1988. The infusion of higher-than-expected tax receipts in April afforded breathing room; however, the recent ambivalence of Japanese investors about absorbing new U.S. government securities at the Treasury's auction will make the size of the federal deficit a critical issue for the next two years — one that will have an impact on the 1988 elections. While it's too soon to call, the odds are improving for passage of major legislation to enhance revenues, i.e., increase taxes. For example, House Speaker Jim Wright's proposal would postpone the reduction in the top marginal income tax rate.

After rising just 0.3 percent in 1987, federal spending is expected to turn negative in 1988. The outlook is somewhat better for spending by state and local governments. With the demise of revenue sharing and other federal funds, they must now step in to provide needed public services, notably in the area of human resources. The state and local government component of final demand is expected to keep the overall growth in government sector spending from turning negative in 1988.

For many states, the source of funding for balancing their budgets and supporting greater expenditure levels is the income tax windfall associated with federal tax reform. Overall, the EOC projects growth in state and local spending of 3.2 and 1.6 percent, respectively, in 1987 and 1988.

Foreign Trade

In 1986 the consumer, through prolific borrowing and spending, kept the economy from sliding into recession. Now, however, with the growing reluctance of households to amass additional debt in support of further spending, the capacity of the economy to continue growing is critically tied to developments in foreign trade. Though the dollar has slid against the Japanese yen and European currencies to its pre-appreciation level of 1980, the growth in foreign orders for U.S. goods has been moderate; the volume of U.S. exports grew at an annual rate of 15 percent in 1986. Additionally, only by year-end 1986 did imports begin to flatten. Japanese producers, by taking repeated hits in profit margins, have proven to be tough competitors when it comes to relinquishing hard-won shares in U.S. markets.

For the trade deficit to improve, the U.S. dollar will have to fall further. The EOC outlook calls for the dollar to drop 16 percent in 1987 and 7 percent in 1988. While nominal export balances will continue to be de-

pressed, real dollar trade will improve. In contrast to imports, which will grow only modestly in 1987 and 1988, real exports will increase 8.0 and 5.8 percent, respectively. On balance, net exports, by exerting less of a drag on U.S. growth, should keep the U.S. economy afloat.

MAJOR FORECAST RISKS

A major risk to growth is that anticipated improvement in the real trade balance may not materialize. Global recession could be in the offing if the current protectionist legislation (the Gephardt amendment) is passed, imposing sanctions against countries that refuse to reduce their trade surpluses with the United States by 10 percent per year. This shift in trade policy, equivalent to the Smoot-Hawley Bill of 1930, would evoke retaliation and an all-out trade war with other countries.

An additional risk to the forecast is tied to the Fed's success in maintaining price stability while simultaneously promoting real economic growth. As noted earlier, foreign investors recently showed ambivalence toward absorbing newly issued U.S. Treasury securities. In essence, the decline in the dollar's value vis-a-vis other currencies is associated with a demand by foreign investors for higher interest rates to hold existing debt, as well as to acquire newly-issued U.S. securities. Furthermore, when imports shrink, as they have for the United States, the economy begins to "import" inflation since more dollars are chasing fewer goods.

Both of these developments dictate tightening the money supply, as the Fed recently demonstrated. However, should the dollar decline precipitously in the immediate future, in tandem with a run-up in the inflation rate, the Fed would be faced with a difficult choice between inflation and recession. It is a safe bet that Alan Greenspan will have the same preference as his predecessor Paul Volker: Interest rates would rise sufficiently to choke off inflation. Unfortunately, such an increase would severely curtail U.S. growth — if not plunge the economy into recession.

— Jim Huyghebaert
Senior Economist
Economic Outlook Center

Construction Activity Stays Strong During First Quarter

Arizona construction activity during first quarter 1987, while below the levels of first quarter 1986, continued to be strong. Building permits valued at \$1.2 billion (24,041 permits) were issued, in contrast to a \$1.4 billion value (27,191 permits) one year earlier. Activity also improved since fourth quarter 1986, when the valuation was \$1.1 billion for 21,559 permits. Unlike previous quarters, no single sector dominated the industry, as shown in the tables that accompany this report.

TABLE 1
REPORTING UNITS WITH
GREATEST TOTAL VALUE OF
BUILDING PERMITS
First Quarter, 1987

Reporting Unit	Value (in millions)
Phoenix	\$275.7
Scottsdale	202.8
Mesa	110.7
Unincorporated Pima County	82.2
Unincorporated Maricopa County	79.6
Tucson	75.6
Tempe	54.9
Chandler	51.5
Glendale	45.9
Peoria	34.9
Gilbert	31.7
Unincorporated Yavapai County	12.0

Source: Center for Business Research, College of Business, Arizona State University

Pima and Maricopa Counties together accounted for 88 percent of the state's construction activity. Maricopa County represented 74 percent of the total activity, with 15,377 permits, valued at \$896 million. With 14 percent of the total, Pima County recorded 3,585 permits, worth \$162 million.

Nearly 90 percent of the total construction activity occurred in the 12 reporting areas listed in Table 1. Most of the areas reported decreased activity from first quarter 1986, including Phoenix (\$401 million to \$276 million) and Tucson (\$124 million to \$76 million). Some areas, however, demonstrated increased activity, such as Scottsdale (\$137 million to \$203 million) and Peoria (\$20 million to \$35 million).

SECTORAL ACTIVITY

Residential

Even with lower mortgage interest rates, the single family sector in Maricopa County fell from the year-earlier level of 6,057 permits to 5,242 permits for first quarter 1987. The number of permitted homes declined, but the dollar value increased from \$399 million to \$430 million. This pattern demonstrates the con-

tinued strengthening of the move-up market. The only areas within the county to report improved activity over first quarter 1986 were Gilbert (198 to 237 permits) and unincorporated Maricopa County (930 to 1,134 permits).

For the same period, the single family sector within Pima County also improved (1,002 to 1,132 permits). More than 74 percent of the authorized units (838 permits) were for the unincorporated areas of the county, while only 24 percent (267 permits) were for the city of Tucson.

With 1,178 permitted homes, the single family sector continued to decline in the non-metropolitan counties. Leading areas of activity were Lake Havasu City (120 permits), unincorporated Yavapai County (145 permits), and unincorporated Co-chise County (75 permits).

Commercial

As expected, the apartment sector in Maricopa County declined from the 4,908 units permitted during first quarter 1986 to only 1,778 units one year later. In the city of Glendale, the number of authorized units fell from 1,316 to only 36. The multi-family sector in Pima County remained largely unchanged from the

TABLE 2
KEY SECTOR CONSTRUCTION ACTIVITY
(First Quarter 1987, Fourth Quarter 1986, and First Quarter 1986)

	COMMERCIAL									
	SINGLE FAMILY		APARTMENTS*		OFFICE BUILDINGS*		RETAIL STORES*		INDUSTRIAL	
	Number of Permits	Dollar Value (\$000)	Number of Permits	Dollar Value (\$000)	Number of Permits	Dollar Value (\$000)	Number of Permits	Dollar Value (\$000)	Number of Permits	Dollar Value (\$000)
Maricopa County										
First Quarter 1987	5,242	430,044	104	63,779	70	66,940	216	73,363	47	30,512
Fourth Quarter 1986	4,136	341,547	116	62,249	57	78,099	257	64,306	76	25,407
First Quarter 1986	6,057	399,132	335	136,721	87	81,706	257	66,633	77	30,465
Pima County										
First Quarter 1987	1,132	73,017	48	19,717	17	14,172	27	18,615	6	1,157
Fourth Quarter 1986	756	53,257	64	59,639	18	5,520	24	6,052	6	628
First Quarter 1986	1,002	64,258	66	30,585	39	40,971	29	13,405	9	1,086
Rest of Arizona										
First Quarter 1987	1,178	66,830	13	4,497	13	1,510	66	11,991	39	3,971
Fourth Quarter 1986	1,367	61,209	10	4,926	33	2,804	57	9,945	37	6,970
First Quarter 1986	1,365	66,746	54	17,679	85	2,370	66	6,635	36	2,564
Arizona Total										
First Quarter 1987	7,552	572,711	166	87,993	106	102,622	312	101,969	76	36,640
Fourth Quarter 1986	6,281	476,013	192	126,807	108	81,223	336	110,308	121	33,205
First Quarter 1986	8,414	522,138	447	173,979	161	125,080	349	86,663	111	34,048

* Five or more housing units

* Office, bank, medical and professional buildings

* Shopping centers and other mercantile buildings

Source: Center for Business Research, College of Business, Arizona State University

first quarter 1986 activity level, with 822 units permitted, but was down appreciably from the 2,541 units permitted in the last quarter of 1986. Only 186 units were authorized in the rest of the state, including 48 units in unincorporated Yuma County and 31 units in Safford.

Contrary to expectations, the office building sector in Maricopa County continued to be healthy, recording 70 permits, valued at \$87 million. This performance was the strongest since the \$91 million (124 permits) of third quarter 1985. The primary areas of development were Phoenix (36 permits at \$56 million), Scottsdale (5 permits at \$11 million), and Mesa (7 permits at \$10 million). In Pima County 17 permits, valued at \$14 million, were issued during first quarter 1987, well above the \$5-million valuation (18 permits) of fourth quarter 1986, but well below the \$41 million (39 permits) of one year earlier.

Although retail construction activity decreased from the fourth quarter (\$94 million to \$73 million), it was better than the \$70 million recorded in the initial quarter of last year. Scottsdale led the activity, with 9 permits (\$20 million), one of which was valued at \$9 million. Retail development in Pima County improved significantly, from \$6 million (24 permits) in the fourth quarter to the first quarter level of \$17 million (27 permits). In the non-metropolitan counties, retail activity has steadily increased from the \$7 million (66 permits) of first quarter 1986 to 69 permits, worth \$12 million, one year later. Areas of retail development included Sierra Vista (\$1.3 million), Payson (\$2.5 million), and Prescott Valley (\$4.2 million).

During first quarter 1986, the hotel/motel sector recorded 22 permits (4,000 rooms), valued at \$129 million. For first quarter 1987, only 4 permits (\$36 million) were issued, with 2 of the permits in Scottsdale (\$33 million).

Industrial

Maricopa County's industrial sector reported only 47 permits (\$31 million), compared to 77 permits (\$50 million) one year earlier. Leading areas of industrial development were Phoenix (29 permits at \$11 million) and Mesa (4 permits at \$6 million). Chandler (\$2 million) and Gilbert (\$4 million) also reported good activity, each issuing one industrial permit.

Industrial development in Pima County continued to be valued at approximately \$1 million, with all activity in the unincorporated areas. Mohave County reported 8 permits, with a total value of \$3 million, accounting for the majority of the \$4 million (23 permits) in industrial activity recorded for the non-metropolitan counties.

Other

This sector encompasses diverse construction activity such as schools, churches, and health care facilities. Building of educational fa-

cilities continued at a strong pace, with new projects valued at \$21 million. Nearly \$20 million of these projects were within Maricopa County, including Mesa (\$7 million), Phoenix (\$5 million), and Tempe (\$4 million). Only 5 permits were issued for health care facilities, but they were valued at \$11 million. These facilities will be built in the cities of Phoenix (4 permits at \$7 million) and Tucson (1 permit for \$4 million).

LOOKING AHEAD

Much like first quarter 1986, construction activity started 1987 at a

TABLE 3
ARIZONA HOUSING UNITS AUTHORIZED
First Quarter 1987

	One Family	Mobile Homes	Duplex	3-4 Family	5 or More	Total
APACHE COUNTY	15	15	0	0	0	30
Percent Change, Previous Year	0	80	-	-	-	80
Percent Change, Previous Qtr.	30	-14	-	-	-	-
COCHISE COUNTY	118	88	0	0	0	198
Percent Change, Previous Year	-17	-43	-	-	-46	-71
Percent Change, Previous Qtr.	33	21	-	-	-41	-19
COCONINO COUNTY	138	88	0	0	0	194
Percent Change, Previous Year	-14	-11	-	-	-	-40
Percent Change, Previous Qtr.	-8	-41	-	-	-	-58
GILA COUNTY	88	48	0	0	0	117
Percent Change, Previous Year	30	-13	-	-	-	9
Percent Change, Previous Qtr.	-18	-84	-	-	-	-84
GRANHAM COUNTY	14	41	0	0	0	55
Percent Change, Previous Year	8	-7	-	-	-	58
Percent Change, Previous Qtr.	27	88	-	0	-	147
GREENLEE COUNTY	0	0	0	0	0	0
Percent Change, Previous Year	-	-	-	-	-	-
Percent Change, Previous Qtr.	-	-	-	-	-	-
LA PAZ COUNTY	9	88	0	0	0	97
Percent Change, Previous Year	-48	74	-	-	-	-16
Percent Change, Previous Qtr.	-	-	-	-	-	-
MARICOPA COUNTY	8,842	467	48	88	1,778	7,899
Percent Change, Previous Year	-13	3	-88	-73	-44	-68
Percent Change, Previous Qtr.	27	2	182	14	-8	16
MOHAVE COUNTY	287	388	0	0	31	687
Percent Change, Previous Year	14	-14	-	-43	-	1
Percent Change, Previous Qtr.	14	-8	-	-	-84	-8
NAVAJO COUNTY	47	21	0	0	0	78
Percent Change, Previous Year	-91	-18	-	-	-	-10
Percent Change, Previous Qtr.	21	8	-	-	0	12
PIMA COUNTY	1,192	188	48	18	882	2,178
Percent Change, Previous Year	13	-47	18	48	-4	-10
Percent Change, Previous Qtr.	48	-83	180	300	-48	-39
PINAL COUNTY	88	108	0	12	0	215
Percent Change, Previous Year	-23	-40	-	25	-	-48
Percent Change, Previous Qtr.	-31	-48	-	-25	-	-42
SANTA CRUZ COUNTY	26	0	0	2	0	48
Percent Change, Previous Year	16	-48	-	-	-	-27
Percent Change, Previous Qtr.	0	0	-	75	-	7
YAVAPAI COUNTY	288	124	14	36	48	528
Percent Change, Previous Year	-38	-38	17	-12	-38	-38
Percent Change, Previous Qtr.	-48	-1	128	88	118	-38
YUMA COUNTY	110	148	0	0	48	304
Percent Change, Previous Year	-11	-18	-	-	-44	-21
Percent Change, Previous Qtr.	-1	-8	-	-	-	-18
TOTAL, ARIZONA	7,882	1,881	84	178	2,788	12,888
Percent Change, Previous Year	-10	-21	-41	-48	-38	-38
Percent Change, Previous Qtr.	28	-8	21	0	-48	-8

Note: A dash indicates that a percent change could not be calculated because at least one period had no activity.

Source: Center for Business Research, College of Business, Arizona State University

high level, but concern exists about whether the pace can be maintained. Market conditions are not especially positive for any single sector, and concerns are mounting about the economy. Most people expected the commercial sectors to report somewhat lower levels of activity during the year but that the single family sector would sustain the industry. However, the recent and sudden increase in mortgage interest rates (9 to 10.5 percent) creates a serious obstacle to the single family sector's true improvement during the year and to its capacity to help sustain construction activity at the current pace.

Given the concerns about 1988, one can expect development activity to follow fairly cautious patterns, with most of the activity remaining in the metropolitan counties. The industrial and retail sectors should be able to sustain their current levels, given the fairly balanced market environment. The apartment sector will not improve greatly until the vacancy rates decline enough to allow owners to raise rents to levels that justify new apartment development. The main force that could drive the industry this year is the commencement of major projects, especially in the office and retail sectors. These projects will not open for another

year, at which time the market is expected to be much improved.

The current year should be a healthy one for the construction industry. However, because building activity has been so strong for the last several years, 1987 will appear weak by comparison. Basically, construction activity will slow during the year as developers examine the current and potential strength and demands of the market.

— Jay Q. Butler

Dr. Butler is Associate Professor of Real Estate and Director of the Arizona Real Estate Center in the ASU College of Business.

TABLE 4
ARIZONA BUILDING PERMITS
First Quarter 1987

	Residential		Commercial		Industrial		Other		Total	
	Number of Permits	Dollar Value (\$000)	Number of Permits	Dollar Value (\$000)	Number of Permits	Dollar Value (\$000)	Number of Permits	Dollar Value (\$000)	Number of Permits	Dollar Value (\$000)
APACHE COUNTY.....	27	770	1	250	0	0	4	15	32	1,044
Percent Change, Previous Year	4	-6	-47	255	-	-	-25	-65	-6	-60
Percent Change, Previous Qtr.	0	65	0	85	-	-	-50	-60	-10	-48
COCHISE COUNTY.....	284	7,312	22	1,825	0	431	169	1,224	640	11,094
Percent Change, Previous Year	-20	-28	-21	-19	-40	-40	7	-40	-15	-40
Percent Change, Previous Qtr.	12	-21	22	-19	50	2,250	11	44	10	-10
COCONINO COUNTY.....	201	10,880	25	1,984	1	31	27	1,340	254	13,251
Percent Change, Previous Year	-10	7	25	-41	-40	-31	-2	25	-4	-3
Percent Change, Previous Qtr.	-28	-10	24	-40	-40	-40	-34	-40	-30	-45
GILA COUNTY.....	220	5,230	25	2,010	2	81	43	110	285	5,515
Percent Change, Previous Year	28	39	212	248	30	70	63	-44	38	80
Percent Change, Previous Qtr.	-10	-9	280	187	-	-	18	-48	-4	10
GRAHAM COUNTY.....	120	1,947	12	1,140	1	33	0	10	133	2,700
Percent Change, Previous Year	22	0	140	0,641	-	-	-40	-40	13	-40
Percent Change, Previous Qtr.	27	10	69	-47	-	1,067	-40	-40	25	54
GREENLEE COUNTY.....	1	0	0	0	0	0	0	0	1	0
Percent Change, Previous Year	-40	-	-	-	-	-	-	-	-40	-
Percent Change, Previous Qtr.	0	-	-	-	-	-	-	-	-40	-
LA PAZ COUNTY.....	120	1,220	12	480	0	0	25	120	164	2,100
Percent Change, Previous Year	17	22	220	284	-	-	-5	-61	16	-16
Percent Change, Previous Qtr.	1,512	2,624	-	-	-	-	280	210	922	2,098
MARICOPA COUNTY.....	2,482	491,484	285	284,700	47	22,512	2,272	122,487	10,277	896,293
Percent Change, Previous Year	-2	7	-27	-40	-40	-40	-18	-20	-10	-14
Percent Change, Previous Qtr.	28	20	-10	0	-28	20	18	10	20	14
MOHAVE COUNTY.....	240	22,182	42	2,220	0	2,720	221	2,420	1,222	10,220
Percent Change, Previous Year	-2	25	22	70	167	280	-40	25	-14	20
Percent Change, Previous Qtr.	-1	5	60	-40	160	524	-2	111	0	5
NAVAJO COUNTY.....	110	2,422	11	220	0	0	14	220	141	4,471
Percent Change, Previous Year	-24	-4	27	170	-	-	-71	-72	-40	0
Percent Change, Previous Qtr.	20	27	22	-2	-	-	-70	-40	-4	11
PIMA COUNTY.....	1,220	75,421	122	21,720	0	1,127	1,224	22,227	2,222	10,221
Percent Change, Previous Year	-40	12	-24	-20	-40	0	-5	-17	-15	-20
Percent Change, Previous Qtr.	20	27	-2	-20	-40	60	-2	-20	0	-2
PIVAL COUNTY.....	220	2,420	22	1,220	1	220	120	220	242	10,272
Percent Change, Previous Year	-20	-7	70	-40	0	-40	-30	-40	-40	-20
Percent Change, Previous Qtr.	-40	-24	22	-40	-24	-40	-27	-40	-41	-20
SANTA CRUZ COUNTY.....	41	1,220	0	270	0	0	0	20	20	2,220
Percent Change, Previous Year	-40	22	220	27,220	-	-	0	-20	-40	40
Percent Change, Previous Qtr.	-2	17	220	210	-	-	-40	-20	0	27
YAVAPI COUNTY.....	220	10,220	21	2,120	2	120	224	2,220	211	22,224
Percent Change, Previous Year	-22	-10	-2	20	-	-	-4	-15	-17	2
Percent Change, Previous Qtr.	-20	-40	-2	20	-40	-70	-10	-40	-20	-24
YUMA COUNTY.....	220	10,220	22	1,220	0	112	220	1,221	224	14,212
Percent Change, Previous Year	-2	-11	-20	-40	20	-40	27	-27	4	-40
Percent Change, Previous Qtr.	-4	-2	-2	20	-40	-70	0	-47	-1	-10
TOTAL ARIZONA.....	10,220	284,127	220	220,244	70	22,220	2,120	122,220	22,221	1,122,220
Percent Change, Previous Year	-4	7	-20	-40	-40	-40	-14	-20	-12	-10
Percent Change, Previous Qtr.	17	10	-1	-4	-27	-7	7	-12	12	0

Includes mobile homes.

Note: A dash indicates that a percent change could not be calculated because at least one period had no activity.

Source: Center for Business Research, College of Business, Arizona State University

Purchasing Indicators Continue Climb in May; Inflation Worsens

The Arizona economy continued its upward course in May, with all indicators positive for the fifth consecutive month. May was almost a carbon copy of April in its strong performance. New orders received from customers, production, and employment each registered a healthy increase. Inventory building continued, and lead times grew longer. Inflation worsened.

The economy has come on strong in the first part of 1987, and the robust expansion should continue during the latter half of the year. The trade deficit finally shows signs that the lower dollar value is beginning to bite imports and expand exports. New order receipts, production, and employment should enjoy further increases over the balance of the year. Lead times will increase, and spot shortages will begin to appear. The only real threat to the current expansion is a resumption of unacceptably high inflation; signs of that now are becoming evident.

Table 1 presents the results of the May survey of Arizona purchasing managers. Analysis of these results follows.

PRICES

Prices paid for major purchased items went up in May at the same

relatively high rate recorded in April. The highest price increase rates in three years (since summer 1984) were recorded in the last two months. All indicators now are flashing a warning that inflation will be a problem over the balance of the year.

DELIVERY TIME

Delivery time on shipments from vendors continued to stretch, at a rate only slightly smaller than in the previous month. Spot shortages now are beginning to appear, as the economic tempo picks up and vendor operating rates increase.

INVENTORY LEVELS

Inventory levels of purchased materials rose again, for the fifth consecutive month, and at the same increase rate as in April. These inventory additions are contributing to the upward economic momentum.

NEW ORDERS

New orders received by Arizona firms increased again, also. New order bookings have been strong so far this year; each month has registered a higher growth rate than any month during the last half of 1986.

This strong performance will translate into further production and employment hikes over the balance of 1987.

PRODUCTION

Production registered a strong jump in May and advanced at a rate that has remained consistent over the past four months. These increases are being fueled by higher new order bookings.

EMPLOYMENT

Employment gained for the fifth month in a row, showing good strength so far this year. This indicator performed sluggishly during the second half of 1986.

PURCHASES

Purchases of materials and supplies accelerated again in May, as needed to meet higher operating rates.

— Harold Fearon

Dr. Fearon is the National Association of Purchasing Management Professor in the ASU College of Business.

Arizona Purchasing Survey

Now in its 25th year of monthly reporting, Dr. Harold Fearon's survey of Arizona business conditions utilizes data from a questionnaire sent to members of the purchasing management associations of Arizona and southern Arizona. It asks them to indicate the direction of activity - higher, unchanged, or lower - of seven key measures of economic activity in the month just ended. These purchasing managers deal daily with supply, demand, and price factors in the marketplace; their aggregate readings have accurately charted the state's economic course for two decades, providing timely data on turning points.

TABLE 1
MAY PURCHASING SURVEY

Key Indicators	Percent of Purchasing Managers Indicating Each Response (May compared to April)		
	Higher	Same	Lower
Prices paid for major commodities	36	60	4
Delivery time from vendors	26	65	9
Purchased materials inventory level	34	43	23
New orders received	44	38	20
Production	41	45	14
Employment	28	59	13
Purchases	47	36	18

Source: Purchasing Management Association of Arizona and the Purchasing Management Association of Southern Arizona.